DOCUMENT RESUME

ED 191 028 CS 205 731

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TITLE Cooley and Clarke: A Study in Comparative Futurology.
PUB DATE Aug 80
NOTE 21p.; Paper presented at the Annual Meeting of the Association for Education in Journalism (63rd, Boston, MA, August 9-13, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Communication (Thought Transfer); *Communications; *Comparative Analysis; *Futures (of Society); Sociocultural Patterns; Sociology; *Technology
IDENTIFIERS *Clarke (Arthur C); *Cooley (Charles H)

ABSTRACT

Suggesting that one helpful way of dealing with the future of communications technology is to consider literary texts from the point of view of a predetermined sociological theory, this paper poses the insights of futurologist Arthur C. Clarke against the substance of sociologist Charles H. Cooley. The paper argues that the two thinkers, though different in style, share enough of scientific naturalism to make a comparative study work. Specific areas considered include the future of the human race, the nature of communication, community life, and mobility and time. In its conclusion the paper questions whether the scientific naturalism affirmed by both Clarke and Cooley is adequate to answer the moral questions of futuristic technology and calls for a closer examination of the subject by communications futurologists. (Author/FL)

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COOLEY AND CLARKE: A STUDY IN COMPARATIVE FUTUROLOGY

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Presented to the Qualitative Studies Division, Association for Education in Journalism Annual Convention, Boston, Mass., August, 1980.

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Forecasting the future has never been the idée fixe of social theorists, but decrying the lack of futuristic insight has been. Social theory, if it has any bite at all, is a commentary on the fogginess of our lenses, the muddiness of our imaginations, and the lethargy of our wills to take the future in tow, rather than merely adapt as it overtakes us.

Forecasting is risky business, of course, victimized by natural and human serendipity. Taking account of the unforeseeable in history's path places so many caveats in the way that the enterprise often seems hopelessly qualified, a wilderness journey without the benefit of fire and cloud. Yet we are obliged, if we would serve our children's generation well, to responsibly speculate about the consequences of the present. Our scholarly agenda must include periodic exercises in futuristic imagination, if only to elicit caution as we progress toward the technologically sophisticated future.

In a sense, media effects studies that receive hearings from regulatory agencies are just this kind of exercise--in the short run: we see a trend; it appears to be corroborated and consequences seem ominous; regulations are enacted to offset the predicted social denouement. But laboratory designs and field surveys are necessarily restricted to what is; they cannot extract data on what is yet to be. Nor can regulatory agencies reasonably design legislation for the construction of a socially beneficent 2030 A.D. Yet

the obligation remains to probe the forces reshaping our social and psychic order.

How to go about this task is not precisely clear.[1] This essay suggests that cultural, literary, and theoretical perspectives are the best tools for probing the future from the longer view--taking account as best we can of the century we are moving toward, asking whether it reckons to be a world wherein humans can amicably dwell.

The method followed here is old-fashioned comparison and contrast. Two social commentators have been selected, and the substance of the present research simply brings the insights of a respected sociologist, Charles H. Cooley, to bear on the predictions of a respected futurologist, Arthur C. Clarke. The aim is to draw the long-range future into sharper focus by drafting a critique of one thinker's imagination based on another's notions of man and society.

The mixture may not be as odd as first appears. Clarke does not articulate a coherent social theory, but it is possible to piece together a reasonable estimate of his sociology based on his projections for the future of human life.[2] Cooley has little to say about futuristic technology, but the enduring significance of his social insights warrants their application to the canvas Clarke draws. They lived in different generations,[3] but each was informed by a scientific naturalism that tends toward an optimistic view of technology and a pessimistic view of fixed values and traditions. Truth for each is a matter of evolutionary growth; meta-systems are displaced by an undeterred expansion of consciousness working out rational and empathetic relations between men and between man and his amino-ancestors. Each addresses the question of values and the future, and each, Clarke more obliquely than Cooley, struggles with the question of whether humanness involves a continuity

which could be radically altered by the technological devices it is pioneering.

Clarke: Man and Society

Northrup Frye has suggested that utopian literature from 1850 on projects either an ideal world state (e.g. H. G. Wells, William Morris) or the harshest conceivable repression (e.g. Aldous Huxley, George Orwell), both aided in the control of nature and the operations of the mind by technology.[4] Given this dichotomy, it is clear that Clarke tends toward the more positive, optimistic projection, especially in reference to communication technology.[5]

Among the benefits of instantaneous communication will be "a single culture on Earth, with all men linked together . . . so efficiently that space on this planet is effectively annihilated." The ultimate dream is to be achieved when "purely scientific technologies" put us in contact with extraterrestial beings who resemble gods more than men, and who, by their materiality, finally debunk human images of a divine spirit.[6] In 1959 Clarke wrote: "I believe that communication satellites can unite mankind." The United States of America was created by the railroad and the telegraph, but the United States of Earth will be fashioned by satellites.[7] They mark the dawn of a "new age of communication which will transform the cultural, political, economic, and even linquistic patterns of our world."[8]

About technology in general, Clarke is confident that what can be, will be.

> At the present rate of progress, it is impossible to imagine any technical feat that cannot be achieved, if it can be achieved at all, within the next five hundred years. . . . Anything that is theoretically possible will be achieved in practice, no matter what the technical difficulties, if it is desired greatly enough.[9]

Man cannot hope to transcend the speed of light, will not achieve time-travel into the past (because altering the present by preventing Lincoln's assassination, or altering one's own existence by murdering one's great-

grandfather, is logically inconceivable), and can only dream about mental teleportation, though the time will come "when we can move from pole to pole within the throb of a single heartbeat."[10]

What kind of heartbeat--the thud of an organic muscle-pump or the flip-flop of an electronic circuit--opens our discussion to crucial questions on the future of man. Clarke projects two strains of thought: one mechanistic, the other mystical. The more pronounced vision suggests that man (whose essence is brain) is a sophisticated "protoplasmic computer," an intermediary in the evolutionary cycle between mineral deposits and fully electronic computers.[11] Since progress is inevitable, the uncontested superior intelligence of techno-computers will eventually discard the organic computers which gave them birth. Why must this happen? Because the synthesis of man and machine cannot be stable.

> The end of human culture is in sight as computers evolve into thinking, conscious entitites. . . . It must happen, but we have nothing to regret or fear.[12]

This will occur when computers are able to design and build other computers, a surety established in 1951 when mathematician John von Neumann proved that a machine could always be designed to build any describable machine--including itself. Indeed, computers will eventually take on organic characteristics, grown instead of constructed.[13]

Clarke is not suggesting, I think, that mankind will disappear from the earth, only that the computer will become so flexible and multi-purpose that functions previously thought solely human will be controlled and created by our technological offspring. The ultimate development:

> A world of dreamers, packed by their millions in the stately pleasure domes of Electro-Sensory Entertainment. Here they would live vicarious lives that might be so much more vivid and exciting than mere reality that they would awake only with the utmost reluctance. . . . Our descendants may pass away their lives wired . . . for everything.[14]

Of more immediate significance than programmed fantasy are bioethical concerns, for surely the race cannot hope to save itself by equipping its geometrically expanding population with exotic Electro-Sensory devices. Requisite to our relief from mundane reality are solutions to numerical growth, of which "compulsory abortion, infanticide, and anti-heterosexual legislation may be some of the milder expedients."[15]

This view of man I have called Clarke's mechanistic vision. His mystical side, though penultimate in his writings, deserves mention, if only to draw out what seems to be Clarke's reluctance to regard man as purely formulaic. He is genuinely intrigued by man's incessant urge to explore and relates many of our troubles to the rolling back of earth-bound frontiers.

> Civilization cannot exist without new frontiers; it needs them both physically and spiritually. . . . The spiritual need is less apparent, but in the long run it is more important. . . . We need adventure, variety, novelty, romance. . . . What is true of individuals is also true of societies; they too can become insane without sufficient stimulus.[16]

Space is, of course, Clarke's panacea. Despite the social costs, mankind stretches toward the stars as if drawn to discover his cosmic origins, the ultimate search for roots.

> We are in the grip of some mysterious force or Zeitgeist driving us out to the planets, whether we wish to go or not.[17]

What role this compulsive Zeitgeist will play in the mesmerized dream-world of our functionally programmed descendants is not clear. Nor does Clarke attempt to take account of the costs involved in getting there. But perhaps at the misty frontiers of his futurology is an organic species no longer human. To this murky possibility he alludes with the resignation of a supplicant plodding toward a stellar Mecca.[18] In the meantime, "the greatest problem of the future is civilizing the human race."[19]

Clarke's penchant is space travel; his concern with communications

technology and social change serves the primary calling but receives little direct attention, aside from airy promises of a unified humanity emerging from the deployment of satellites.[20] We are advised that cities will diffuse and geographical loyalties disappear as man becomes "a wanderer over the face of the Earth--a gypsy driving a nuclear-powered caravan from oasis tc oasis across the deserts of the sky."[21] Fortunately, our perpetual movement should not lead to rootlessness, since we will always call Earth home. The only true loneliness will lie between stars, Clarke surmises, and even that should be mollified as man recognizes that "the whole galaxy . . . may be evolving toward consciousness, if it has not already done so."[22] A dazzling array of gadgetry will relieve the congestion of city traffic, housing, and inter-city transportation, all with vaguely beneficent social effects. The link which glues these scattered pieces into some coherent social whole is communication.

Cooley: Mind and Communication

That same link is central to Cooley's sociology. Whatever feats of technological progress man might achieve, he needs communication to nourish a basic social nature. To eliminate the conveyance of meanings between minds is to take man out of the equation altogether. We might expect Cooley to herald technology as enhancing our potential for humanness in much the same way Clarke ponders the benefits of technology's leading beyond the human era, but Cooley's approach adds subtlety and helps us gain conceptual footholds for our probe into the future.

Cooley's portrait of human nature revolves around the concepts of social-personal wholism, the centrality of mind and the mental life, and interlinkages of communication which generate fulfilled human existence.

Classical liberalism's notion of the autonomous individual is as wrongheaded as socialism's undifferentiated mass, according to Cooley. The

continuity of historic change, which follows from Cooley's core belief in evolutionary naturalism, sees society and individuals in organic relation. Neither is known in experience as separate or abstracted elements. Rather, "society" and "individual" are the collective and distributive aspects of the social whole which Cooley terms "Human Life."

> The organic view stresses both the unity of the whole and the peculiar value of the individual, explaining each by the other. . . . A well-developed individual can exist only in and through a well-developed whole, and vice versa.[23]

Organic wholeness finds its locus in mind. To summarize epigrammatically: mind is social; society is mental; society and mind are aspects of the same whole. Individuals conceive of themselves and others in mentalistic modes which refuse to isolate "I" from "other." Society by definition requires commerce between self and others, and this commerce transpires in the mind: "The immediate social reality is the personal idea. Society . . . is a relation among personal ideas."[24] Yet persons are independent of the ideas about them.

> The man is one thing and the various ideas enetertained about him are another; but . . . the personal idea is the immediate social reality. [Nevertheless] there is no view of the self, that will bear examination, which makes it altogether distinct in our minds from other persons. . . . Self and others do not exist as mutually exclusive social facts.[25]

Cooley's idealism is most pronounced as he reflects on the nature of history.

> Each man's imagination . . . is a special phase of society; and Mind or Imagination as a whole, that is human thought considered in the largest way as having a growth and organization extending throughout the ages, is the locus of society in the widest possible sense.[26]

Communication is essential for the development of the social order, and since social order and human reality are simply dual aspects of the same phenomenon, it is not stretching the case to claim that communication is a prerequisite for the development of human nature. For Cooley, "communication" covers the means or channels as well as the symbols of the mind which

constitute social and personal percepts.[27] Communication stimulates the mind by a personal symbol, giving "a formative impulse to the vague mass of hereditary feeling-tendency."[28]

This telescoped survey of Cooley's sociology lays groundwork for our integration of his thought with Clarke's more immoderate projections. I will draw three points of apparent agreement between the two scholars, then three points at which Cooley illuminates the social implications of Clarke's notions, and in so doing, cautions us concerning the subtle potentials of technological progress.

First, both are optimistic about the technological future, Clarke because the gadgetry will enable the human spirit freedom to move, explore, and communicate. Cooley because the "enlargement of social consciousness and rational cooperation" which constitutes "the central fact of history" seemed to be on the threshold of significant forward advance, largely due to communication technology.[29] Moreover, this threshold carries a challenge: If man will, he can hasten the evolutionary advance that thus far has lumbered forward despite distances and warring ideologies.

> The process of communication has supplied the mechanical basis for a spiritual organization far beyond anything in the past; but this remains unachieved.[30]

For Cooley, communication technologies are the tools of democracy (which he uncritically accepts as expressive of man's "higher nature"). In rhetoric that seems patently "blue sky," Cooley promises:

> Democracy rises worldwide when conditions make it natural for the people to have and express a consciousness regarding questions of the day. . . . New communication has spread like morning light over the world, awakening, enlightening, enlarging, and filling with expectation.[31]

More passages could be cited. Suffice it that both Cooley and Clarke foresee a potentially peaceful, cooperative global society facilitated

primarily by communication technology.

Both also find common ground in their commitments to social and biological engineering as necessary to the management of the new order. We have already noted some of Clarke's troublesome visions (infanticide, etc.), and we could wish that Cooley himself had spoken with greater caution. But Cooley is open to the contributions of the "science" of eugenics, speaks at times with a racist bias too pronounced to overlook, and toys with Social Darwinism as an extension of his naturalistic worldview.

Cooley's earlier writings suggest a fascination with genetic engineering. Among his recommendations: prevent the "feeble-minded" from bearing children, and encourage "upper classes" (who represent the "abler stocks") to bear more offspring.

> Better heredity would make progress more rapid, because it would give us more men of talent as leaders and a higher average of ability. . . . Social improvement and eugenics are a team that should be driven abreast.[32]

Later he qualifies his enthusiasm somewhat, but not to the point of any serious ethical challenge. On the "new science of eugenics . . . those of us who approach social problems from another point of view may yet have the highest regard and expectation."[33]

Cooley's social engineering includes shades of racial differentiation that, however moderate for the early 1900s, ring dissonantly in modern ears. In his discussion on the benefits of efficient communication, Cooley asserts that men want "international strife allayed--in such a way, however, as not to prevent the expansion of capable races and the survival of better types."[34]

Later Cooley repudiates caste (inherited class difference) while retaining the notion that competition will separate the strong from the weak, those with "moral" superiority from those less able to adapt. Regarding the

civilizing growth of democracy, Cooley writes that "great gains have been made by the more vigorous and fortunate races, and these are regarded with emulation and hope by many of the others."[35]

A third strain in Cooley's willingness to entertain social engineering is a revised Social Darwinism wherein wealth and success are signs of "moral" superiority, "those who get rich being in general the ablest . . . of the many who devote their energies to it." Though heredity as a device for caste is abominable, it does serve the purpose of eliminating those "unsuited to the conditions of life."[36]

The third major tie between Clarke and Cooley focuses on the cloudy boundaries between reality and fantasy. I have noted the outlandish possibility of humans investing years, possibly decades, in computerized dream-tanks. The criticism suggests a fundamental distinction between real and imaginary, the real being the realm of responsible human action and the imaginary a type of escape (when employed in Clarke's way) from responsible discourse. In comparing our two scholars on this point, I do not suggest that Cooley would condone the escapism implied in Clarke's notions. It does seem apparent, however, that Cooley makes vulnerable the boundary between real and imaginary, opening the future to the possibility of some variation of Clarke's fantasy-engineering.

> To be imagined is to become real, in a social sense. . . . An invisible person may easily be more real to an imaginative mind than a visible one; sensible presence is not necessarily a matter of the first importance.[37]

In his discussion of society as a relation among personal ideas, Cooley asserts that persons with "no corporeal reality" (e.g. fictional characters or deceased persons) are "real people, members of society . . . insofar as we imagine them."[38]

Primary sympathy between the two scholars rests on their shared optimism regarding the potential of technology to provide tools for a felicific future. Secondary cords of sympathy are drawn in their openness to social engineering and their fluid boundaries between objective and imagined reality.[39] But serious criticisms of Clarke's technophilic profile can be mustered from Cooley's sociology, and to these we now turn.

Perhaps Cooley's most enduring legacy to social science is the concept of primary groups. So central are these groups (the most immediate examples of which are family, the child's play group, and neighborhood) to a person's social nature that the ideals transferred in their context are called "part of human nature itself." To change the structure of primary-group interaction would be to change human nature. At the least, the "fullest self-realization" cannot be attained without embracing "in a passionate self-feeling the aims of the fellowship" that are learned in primary-group context.[40]

Coser notes that the Hobbesian man holds no sway in the domain of primary groups, where devotion to the whole and to the other takes precedence over self-benefits, where maturity is acquired, and where individuals are drawn out of egoistic isolation. Indeed, the ordering of a society depends on the extension of these traits into the public marketplace. Public opinion, an organic process, "emerges not from prior agreement but from reciprocal action of individual opinions upon each other--from the clash of ideas in the process of communication."[41]

Cooley is concerned about moral order. The creation of it on an "ever-growing scale" he calls the "great historical task of mankind." As interlinkages of communication become more remote, the cohesiveness of shared ideals and mental ideas grows more elastic. True communication, not merely information transfer, fosters freedom, order, and justice. Clearly, the ideals learned in

primary groups are those which Cooley would project into the larger communicational matrix. And if that task fails, society is jeopardized.

> A rapid improvement in the means of communication, as we see in our our time, supplies the basis for a larger and freer society, and yet it may, by disordering settled relations, and by fixing attention too much upon mechanical phases of progress, bring in conditions of confusion and injustice that are the opposite of free.[42]

No clearer clarion could be sounded to warn against the disorganization lurking behind Clarke's vision of mobile housing, the breakdown of geographic loyalites, and communication linkages maintained entirely through technological mediation.

A second but related call to caution emanates from Cooley's two evils: formalism and disorganization. The former describes society wherein a supreme commitment to mechanism starves the higher life of personality and leaves man apathetic and complacent. The latter is a mechanistic worldview gone to seed wherein mind is without abiding allegiance to the whole and therefore without the moral sympathies that flow from such loyalty.[43] Moral unity, the mother of all social ideals, both requires and feeds loyalty, lawfulness, and freedom. The two most "vital signs" of social health, Cooley claims, are democracy and Christianity, though it seems unlikely he would cling to the latter unless it served the former.[44] Clarke's adamant dismissal of any organized religion far exceeds Cooley's criticism of historic errors perpetrated under a Christian banner, and we can appropriately ask what substitute Clarke proposes to enhance moral order. On the matter of democracy, we might infer from Clarke's writing a predeliction toward global unity and self-assertion, though of course he does not deal with political structures or institutions.

More fundamentally, however, we must ask how closely Clarke's notions coincide with Cooley's formalistic society. Clarke asserts that an innate urge to explore gives unity to human endeavor, and that regions of space are

so infinitely expansive that man will never grow complacent. Cooley brings us back to primary concerns which challenge Clarke's confidence in exploration morality and censure his enthusiasm for technological utopia.

A third and again integrated line of criticism is Cooley's notion that the locus of freedom is the organic constraint of group affiliation. Freedom is cooperative and interactive; not personal independence, but interdependence. Cooley will have no commerce with notions that freedom means absence of constraint. Such a view identifies with the four "false approaches" to society: mere individualism, where society is a simple aggregate; double causation, where individuals are society are conceived as separate causes; primitive individualism, where society follows individualism in developmental sequence; and the social faculty view, where society is a part of the individual.[45]

"Moral principles result from the mind's instinctive need to achieve unity of view," wrote Cooley. Freedom thrives in a society well ordered by rational, interactional constraints.

> A consciousness . . . that the transgression of moral standards will arouse resentment in the minds of those whose opinion we respect, is a main force in the upholding of . . . standards.[46]

So vital is social context that human development cannot occur--certainly cannot thrive--apart from it.

> Man has no existence apart from the social order, and can develop his personality only through the social order, and in the same degree that it is developed. A freedom consisting in the removal of limiting conditions is inconceivable.[47]

These representative selections from Cooley cast considerable doubt on Clarke's notions that technologically mediated presence, communication, and conscience are sufficient to usher in a society of self-realizing, free individuals. The matter is more complex than Clarke gives reason to believe; Cooley unfolds the complexity in helpful ways.

Summary

We have probed the technological future by contrasting a futurologist with a sociologist whose concerns touch directly on communication theory. We have surveyed Arthur C. Clarke's informed predictions and reviewed Charles H. Cooley's contributions to social understanding. In the course of our treatment, we have drawn attention to concepts which enrich our discussion of the future and which set us buoys warning of possible violation to the human spirit should the future follow Clarke's visions. The buoys we have charted are echoed by other theorists, yet each formulation emphasizes the importance of the inquiry.

A final question remains by way of further buoy setting: Is a naturalistic Weltanschauung of the kind which both Clarke and Cooley affirm adequate to the moral questions of futuristic technology?

For his part, Cooley calls for a "just union of stability and change," but do we know what is just? Ethcial standards are purely functional, he asserts, but this begs the moral question. Cooley insists that he can locate ethical universals (loyalty to the group, kindness to group members, adherence to tribal custom),[48] but how appropriate are alleged universals that tolerate eugenics and at least the periphery of racism? If man's sole claim to dignity is the evolution of self-consciousness, are we sufficiently guided through the murky waters of social and biological engineering that follow close on the wake of technological innovation? The pursuit of these questions will take us beyond the offerings of either Clarke or Cooley, but the need to advance should not detract from their respective contributions to questions of technology and social change.

NOTES

[1]James Carey provides some methodological guidelines. He describes three styles of futurology--as embellishment, literary prophecy, and participation ritual--and calls social prognosticators to reconnect the picture of the future to the real past and to the realities of the present. See "The History of the Future," in Communications Technology and Social Policy: Understanding the New "Cultural Revolution," ed. by George Gerbner, Larry P. Gross, and William H. Melody (New York: Wiley, [1973]).

[2]Not all will agree on the reasonableness of Clarke's predictions, however. In his defense, it should be noted that Clarke is constrained by limitations of time-travel and stellar distance; he does not foresee boundless horizons for technology. Cooley is likewise not above criticism. The thrust of this essay, however, is not so much to critique Clarke's technological expertise or Cooley's sociology, but assuming that each warrants a hearing, to match the thoughts of one against the other in the hope that our study of the future might gain valuable conceptual directions, and also to anchor futurology in responsible theoretics, not merely in science fictional speculation.

[3]Clarke is alive and well at the time of this writing. Cooley died in 1929.

[4]Northrup Frye, "Varieties of Literary Utopias," in Utopias and Utopian Thought, ed.by Frank E. Manuel (Boston: Houghton Mifflin, 1966), p. 28.

[5]Lewis Mumford has recognized that technological optimists such as Clarke may, in fact, be projecting the mechanical side of the socially repressive future. In their fascination with gadgets, Mumford infers, they fail to discern the ominous and inhumane structures to which the gadgets inevitably lead. Mumford indicts Clarke for a full-scale surrender to the "mechanically conditioned and controlled future." The Myth of the Machine, vol 2: The Pentagon of Power (New York: Harcourt Brace Jovanovich, 1970), pp. 283, 310, 444. On a more commendatory note, Clarke was named 1977 winner of the Bradford Washburn Award of the Boston Museum of Science, given for outstanding contributions toward public understanding of science. He is generally credited as the first to propose the use of satellites for a global television network, the subject of an article written in 1945.

[6]Voices from the Sky: Previews of the Coming Space Age (New York: Harper & Row, 1965), p. 183. Communication with god-like extraterrestials will spell the end to all religious belief, Clarke insists. He does not entertain the ironic possibility that these imagined super-humanoids may themselves have an image of the divine.

[7]Profiles of the Future: An Inquiry into the Limits of the Possible, rev. ed. (New York: Popular Library, 1977), p. 215.

[8]Profiles, p. 203.

[9]Profiles, pp. 14, 29.

[10]Profiles, p. 99.

[11]Profiles, pp. 241-43. Clarke describes youth on street corners as "leather-jacketed, general-purpose bioelectric computers" in Voices, p. 209.

[12]Profiles, pp. 220, 247. Langdon Winner writes: "Once underway, the technological reconstruction of the world tends to continue. . . . Technical systems . . . become severed from the ends originally set for them, and, in effect, reprogram themselves and their environment to suit the special conditions of their own operation. The artificial slave gradually subverts the rule of its master." See Autonomous Technology (Cambridge, Mass.: M.I.T. Press, 1977), pp. 208, 227.

[13]Profiles, pp. 178, 237. Lewis M. Branscomb, IBM vice president and chief scientist, foresees the day when silicon chips will give way to three-dimensional memory cells with power to self-replicate. Needed, he claims, is a biological crystal computer made of DNA-type stuff--an imitation brain. See "Information: The Ultimate Frontier," Science 203 (12 January 1979): 143-147.

[14]Voices, p. 145. Elsewhere Clarke reiterates that the fixed brain is a handicap, and that death itself may be interminably postponed by the replacement of flesh with machine. See Profiles, pp. 221, 229, 246.

[15]Profiles, p. 102.

[16]Profiles, p. 101.

[17]Voices, p. 107. On social costs, Clarke notes that "it will be impossible to converse with anyone on another planet." On Earth we will come to take instantaneous communication for granted, but the distances between stellar outposts and the time barrier within which communication is constrained preclude "personal links of sound or vision" between future space travelers and their friends on Earth. See Profiles, p. 132.

[18]We can't turn back from space now, "even though our feet must some day carry us into realms no longer human," Voices, p. 11. "A slow but profound reorientation of our culture is under way. . . . As the exploration of the solar system proceeds, human society will become more and more permeated with the ideas, discoveries, and experiences of astronautics," Profiles, p. 104.

[19]Profiles, p. 179.

[20]Communication satellites are the future "nervous system of mankind, which will link together the whole human race, for better or worse, in a unity which no earlier age could have imagined." With satellites "the great highway of the ether will be thrown open to the whole world, and all men will become neighbors--whether they like it or not." Profiles, pp. 139, 206.

[21]Profiles, p. 78.

[22]Profiles, p. 202.

[23]Charles H. Cooley, Human Nature and the Social Order (New York: Scribner's, 1902; reprint ed., The Two Major Works of Charles H. Cooley, Glencoe, Ill.: The Free Press, 1956), p. 36. Robert Cooley Angell, a nephew and perhaps Cooley's most thoughtful disciple, explained the wholism in pre-Socratic imagery. The universal "stuff" of reality, in Cooley's vision, is organized at particular points: persons, groups, institutions, and publics. Atomism is an intolerable violation of the whole. Human nature is not simply a person's biological endowment, but that which "everywhere and always develops in intimate contact with others." In the International Encyclopedia of the Social Sciences, 1st ed., s.v. "Cooley, Charles H." by Robert C. Angell.

[24]Human Nature, p. 119.

[25]Human Nature, pp. 123, 126.

[26]Human Nature, p. 134. For an analysis and critical response to Cooley's idealism, see George Herbert Mead, "Cooley's Contribution to American Social Thought," American Journal of Sociology XXXV (March 1930): 693-706. Angell summarizes Cooley's critics at the conclusion of his piece in the I.E.S.S. (previously cited) and gives particular attention to Mead's criticism in "Introduction to The Two Major Works," pp. xvi-xvii. For a comprehensive summary of Cooley's life and thought, see Lewis Coser, Masters of Sociological Thought (New York: Harcourt Brace Jovanowich, 1971), pp. 305-330. Cooley's methodological approach is discussed in Robert C. Angell, "Cooley's Heritage to Social Research," Social Forces VIII (March 1930): 340-47.

[27]Charles H. Cooley, Social Organization (New York: Scribner's, 1912; reprint ed., The Two Major Works of Charles H. Cooley, Glencoe, Ill.: The Free Press, 1956), p. 61.

[28]Human Nature, p. 114. Mead summarizes Cooley's view of communication as "everything that interrelates the members of a society and which become therefore symbols in their minds." In "Cooley's Contribution," p. 699.

[29]Social Organization, p. 113.

[30]Social Organization, p. 244.

[31]Social Organization, pp. 86, 88.

[32]Human Nature. pp. 14-15.

[33]Social Organization, p. 296. His last major work, written in 1918, recommends that social programs aimed at alleviating infant mortality must be matched with "eugenic measures aimed at raising the standard of heredity in the infants born." By way of example, he looks with concern on the upheaval that would result if infant mortality among southern Blacks were remedied. They "would soon overwhelm the whites." See Social Process (New York: Charles Scribner's Sons, 1918), p. 232.

[34]Social Organization, p. 89.

[35]Social Organization, p. 113. Cooley's essay "Personal Competition" (1899) suggests that Englishmen and Germans seize opportunities; Italians and Spaniards do no more than immediately required. Anglo-Saxons are aggressive, ambitious, and virile. See Sociological Theory and Social Research, being Selected Papers of Charles Horton Cooley (New York: Henry Holt, 1930), p. 170.

[36]Social Organization, pp. 258, 295-6. Angell points out that Herbert Spencer was Cooley's introduction to Darwin, but argues that Cooley became critical of Spencer's view of society as a biological organization. See "Introduction to The Two Major Works," p. xviii. Coser makes the point that Cooley was repelled by Spencer's "defect of sympathy" and never accepted Social Darwinism. Richard Hofstadter also defends Cooley vis-á-vis both Spencer and Galtonian eugenics. See Social Darwinism in American Thought, rev. ed. (Boston: Beacon Press, 1955), pp. 159-60, 166-67. These defenses are based on Cooley's rejection of the autonomous individual who thrives or weakens quite apart from the influences of social setting. My own evaluation--that Cooley revised rather than rejected the arguments of Social Darwinism--finds some support in Robert Gutman, "Cooley: A Perspective," American Sociological Review 23 (June 1958): 251-55. Also see Cooley's appreciative essay, "Reflections upon the Sociology of Herbert Spencer," American Journal of Sociology XXVI (September 1920): 129-145, reprinted in Sociological Theory and Social Research, pp. 263-279.

[37]Human Nature, p. 95.

[38]Human Nature, p. 120.

[39]It could be argued that Cooley altogether rejects "objective" reality, if that is taken to mean a real object existing apart from our mental ideas of it. The argument cannot hold, however. Cooley directs his discussion to social, not material, reality, and makes a point of defending himself against charges of wholesale subjectivism. See Human Nature, p. 123.

[40]Social Organization, pp. 33-35. "The merging of himself in the willing service of a greater whole raises man to the higher function of human nature," in Social Process, p. 72.

[41]Coser, Masters, pp. 308, 312.

[42]Social Organization, p. 55.

[43]These two evils are aptly drawn out by Coser in Masters, pp. 309-10.

[44]Social Organization, pp. 35-38, 51.

[45]Human Nature, pp. 43-47.

[46]Human Nature, pp. 277, 280.

[47]Human Nature, p. 422.

[48]Human Nature, p. 401.